



## Desktop Info Servers

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This chapter contains information about configuring a Desktop Info Server architecture, which you can use to reduce the load on Info Servers that receive high numbers of events.

This chapter contains the following sections:

- [Using a Desktop Info Server Architecture, page 6-1](#)
- [Installing a Dual Server Desktop Architecture, page 6-2](#)

### Using a Desktop Info Server Architecture

You can use a Desktop Info Server architecture to increase the performance of an Info Server that frequently experiences heavy loads. For example, this can occur when many regional Info Servers send events to a central Info Server through unidirectional gateways and many desktops connect directly to the central Info Server.

When an Info Server becomes overloaded, unidirectional gateways cannot insert all events into the Info Server database. Additionally, desktops connected directly to the Info Server further increase the load, especially if a large number of desktops connect simultaneously.

The Desktop Info Server architecture:

- Reduces the central Info Server's workload by shifting the load to specialized Desktop Info Servers
- Improves desktop responsiveness (the time between a desktop user's action and its reflection in the desktop GUI)
- Reduces occurrences of desktop GUI freezing
- Improves the end-to-end latency times in heavily-loaded, standard Info Server configurations



**Note**

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If you implement a DSD architecture, you cannot configure Info Server failover using the failover feature.

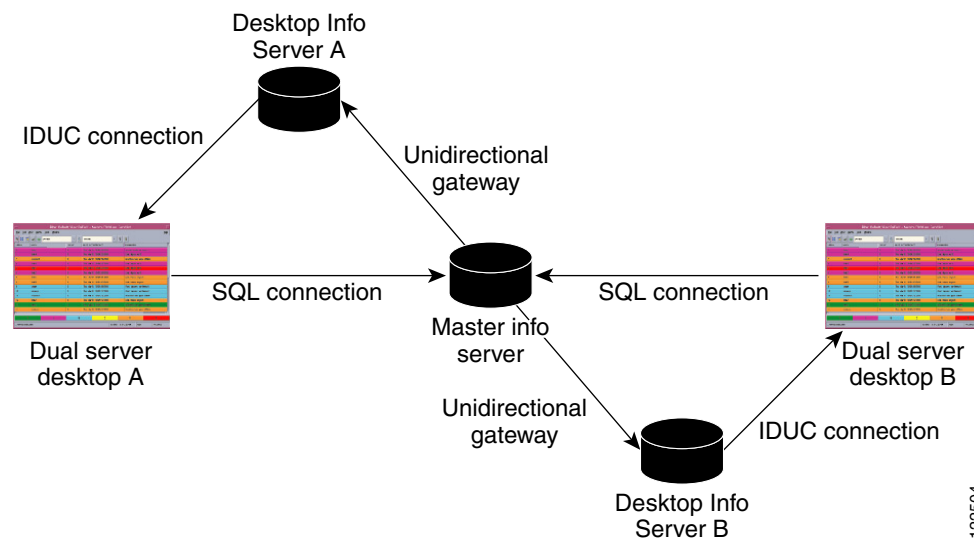
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## Desktop Info Server Architecture Overview

The Desktop Info Server architecture uses a Master Info Server and one or more Desktop Info Servers to share the duties normally performed by a single Info Server. Alerts appear for operators on a dual server desktop (DSD). The main functionality of the DSD is the same as a standard desktop; for operators, the DSD functions identically to a standard architecture.

DSDs connect to a single, Master Info Server when performing writes, but read alert data from Desktop Info Servers. This ensures rapid desktop responsiveness by updating the Desktop Info Servers, while maintaining high data integrity and consistency by simultaneously updating the Master Info Server. [Figure 6-1](#) shows an example DSD architecture.

**Figure 6-1** Dual Server Desktop Architecture



The DSD connects simultaneously to the Desktop Info Server and the Master Info Server. Any user actions (for example, tools or journal actions) performed in the DSD are sent directly to the Master Info Server through a one way SQL connection and are optionally sent to the Desktop Info Server through an IDUC connection.

Alerts in the Master Info Server are sent to the DSD through the Desktop Info Server. This is achieved using a unidirectional gateway from the Master Info Server to the Desktop Info Server and an IDUC connection from the Desktop Info Server to the DSD.

When users start an Info Desktop, they must select an Info Server to connect to. If the Info Server that the user connects to is configured to use a DSD architecture, then the Info Desktop connects to the Master Info Server when performing write operations but connects to one or more Desktop Info Servers when performing read operations.

## Installing a Dual Server Desktop Architecture

The Cisco Info Server installation program, OINSTALL, automates the process for installing a DSD architecture. When you install the Info Server component, the installation script prompts you whether to install a Dual Desktop architecture.

If you specify installation of a Dual Desktop architecture, you are prompted as to whether the Info Server that you are installing is the Master Info Server in the DSD architecture. You are also asked whether you want to install a DSD on the current host.

You can install one or more Dual Server Desktops. You can install the DSDs on the same host that is running the Master Info Server in the DSD configuration or you can install the DSDs on remote hosts.

You are also prompted as to whether you want to install the DSD gateway on the same host as the Master Info Server. Normally you install the DSD gateway on the same host as the Master Info Server.

**Note**

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If you will run the DSD Gateway on the host where you are running the Master Info Server in the DSD architecture, you must select the Gateways component for installation.

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## Desktop Info Server Configuration Considerations

When configuring a Desktop Info Server architecture:

- One Info Server must be designated as the Master Info Server.
- One or more Info Servers can be designated as Desktop Info Servers.
- A unidirectional gateway must connect the Master Info Server with each of the Desktop Info Servers.
- All users, groups, and roles must be identical in the Master Info Server and Desktop Info Server.

## Configuring a DSD Architecture with SSL Enabled

You can configure a DSD architecture and also configure Secure Sockets Layer (SSL) communication between the DSD components. However, if you are setting up a DSD architecture with SSL communication enabled, the DSD architecture with SSL can only be configured with the following on the *same host*:

- Master Info Server
- Desktop Info Serve
- DSD Gateway

If you configure SSL with a DSD architecture, you must configure SSL to run the Certificate Authority on the local host.

**Note**

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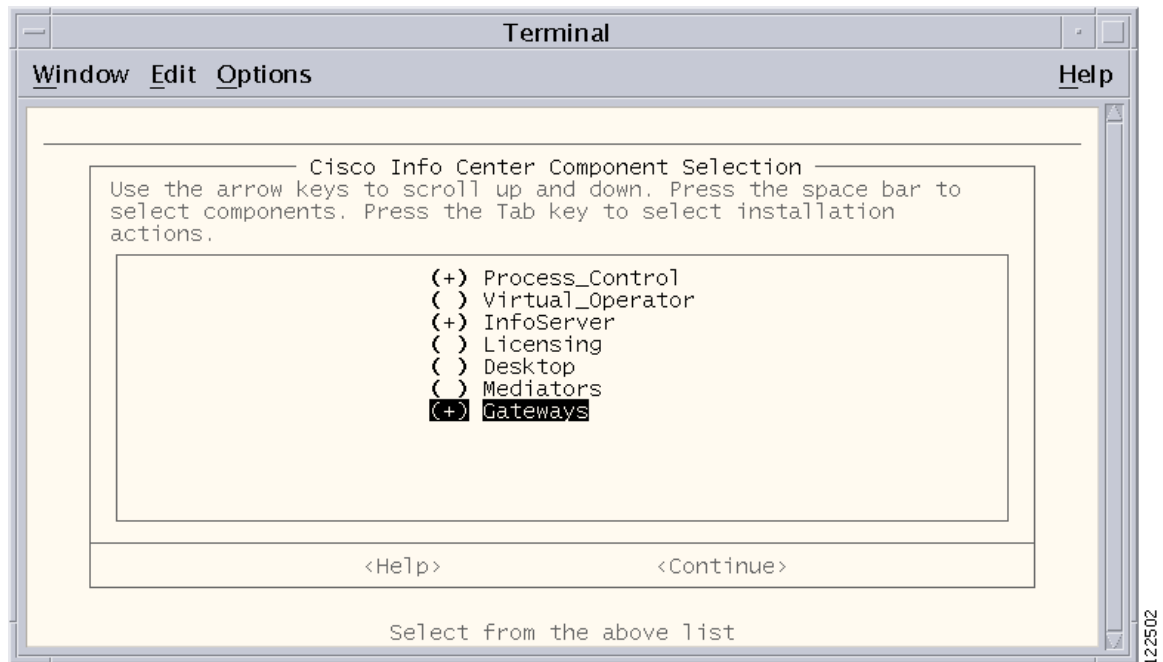
Virtual Operator, Webtop, or failover configuration will not work with SSL configured.

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## Component Selection for Installing a DSD Architecture

Figure 6-2 shows the Component Selection Menu from the Cisco Info Center installation programs with the proper components selected for a DSD architecture. You can select additional components; however, if you are configuring SSL communication on this host, you cannot select the Virtual Operator or Webtop components.

**Figure 6-2** Component selection for a DSD Architecture



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## Prompts for Setting Up a DSD Configuration

Table 6-1 summarizes the OINSTALL installation prompts for DSD configuration and the required responses to the prompts.

**Table 6-1 DSD Configuration Prompts**

Prompt	Response
Do you want to enable SSL configuration for any of the components? (y/n)? [n]	<p>Do one of the following:</p> <ul style="list-style-type: none"> <li>To accept the default setting (no SSL configuration), press <b>Return</b>.</li> <li>If you want to configure SSL communications for the Info Server and the Dual Desktop, enter <b>y</b>.</li> </ul> <p><b>Note</b> Note the limitations on configuring a DSD architecture with SSL enabled described in the “<a href="#">Configuring a DSD Architecture with SSL Enabled</a>” section on page 6-3.</p>
Configure Info Server failover on Info Server y/n)? [n]	Press <b>Return</b> to accept the default setting (no failover).
Do you want to configure this server to be part of a Dual Desktop Server (DSD) architecture? (y/n)? [n]	<p>Enter <b>y</b>.</p> <p>The following messages appear:</p> <pre>INFO: Creating the new Info Server INFOSERVER  INFO: Generating the databases files..  INFO: Configuring INFOSERVER for DSD architecture</pre>
Is <INFO_SERVER_NAME> the Master Info Server in the DSD configuration? (y/n)? [y]	<p>This prompt appears if you specify that the Info Server is to be part of a DSD architecture.</p> <p>Do one of the following:</p> <ul style="list-style-type: none"> <li>To accept the default setting (the Info Server that you are configuring on this host, named <i>INFO_SERVER_NAME</i> will be the Master Info Server in the DSD architecture), press <b>Return</b>.</li> <li>If the Info Server installed on the will not be the Master Info Server in the DSD configuration, enter <b>n</b>.</li> </ul>

Table 6-1 DSD Configuration Prompts (continued)

Prompt	Response
Do you want to create a Desktop Info Server on the current host? (y/n)? [y]	<p>Do one of the following:</p> <ul style="list-style-type: none"> <li>To accept the default setting (the Desktop Info Server run on the current host), press <b>Return</b>.</li> <li>If the Info Server installed on the will not be the Master Info Server in the DSD configuration, enter <b>n</b>.</li> </ul> <p><b>Note</b> If you have enabled SSL communication on the host, you must create the Desktop Info Server on the current host.</p> <p>If you press <b>Return</b>, the following message appears:</p> <p>The Info Server <i>INFO_SERVER_NAME</i> has been configured to be part of a DSD architecture.</p>
<p>INFO: The Info Server name must be a single word, no more than 11 characters long. It must be alphanumeric and start with a letter</p> <p>Enter the Desktop Info Server name [DESKTOP]:</p>	<p>Do one of the following:</p> <ul style="list-style-type: none"> <li>To accept the default name for the Desktop Info Server (DESKTOP), press <b>Return</b>.</li> <li>To specify another name, enter the name.</li> </ul>

**Table 6-1 DSD Configuration Prompts (continued)**

Prompt	Response
Enter the port number for the Desktop Info Server [4100]:	<p>Do one of the following:</p> <ul style="list-style-type: none"> <li>To accept the default port number for the Desktop Info Server (4100), press <b>Return</b>.</li> <li>To specify another port number, enter the port number.</li> </ul> <p>Messages similar to the following appear:</p> <pre>INFO: Creating Desktop Info Server &lt;DESKTOP_SERVER_NAME&gt;.  INFO: Adding entry to omni.dat for &lt;DESKTOP_SERVER_NAME&gt;  Primary: nnn.nnn.nnn.nnn port_number</pre> <p>where <i>nnn.nnn.nnn.nnn</i> is the IP address of the Master Info Server and <i>port_number</i> is the port number specified for the Desktop Info Server</p> <p>&lt;DESKTOP_SERVER_NAME&gt; has been configured to be part of a DSD architecture.</p>
Do you wish to run the DSD gateway on this server? (y/n)? [y]	<p>Do one of the following:</p> <ul style="list-style-type: none"> <li>To accept the default setting (DSD Gateway installed on the current host), press <b>Return</b>.</li> <li>If you want to install the DSD Gateway on another host, enter <b>n</b>.</li> </ul> <p><b>Note</b> If you have enabled SSL communication on the host, you must run the DSD Gateway on the current host.</p> <p>If you press <b>Return</b> to install the DSD Gateway on the current host, the following messages appear:</p> <pre>Searching for failover gateway port...done  Using port 4310 for the failover gateway.  INFO: Adding entry to omni.dat for DSD_GATE</pre>

## Prompts for Configuring the DSD Architecture with SSL Configuration

Table 6-2 summarizes the OINSTALL installation prompts for SSL configuration in conjunction with a DSD architecture and the required responses to the prompts.

**Table 6-2 DSD Configuration Prompts when SSL Communication is Enabled**

Prompt	Response
Do you want to enable SSL configuration for any of the components? (y/n)? [n]	To enable SSL configuration, enter <b>y</b> .
Do you want to use your local host as the Certificate Authority? (y/n)? [y]	Enter <b>y</b> .  <b>Note</b> If you are configuring SSL along with a DSD architecture, the Certificate Authority must run on the local host.
Configure Info Server failover on Info Server? (y/n)? [n]	Press <b>Return</b> to accept the default setting (no failover).
Do you want to configure the Info Server for SSL? (y/n)? [n]	Enter <b>y</b> to configure the Info Server for SSL communication.
Enter the port number for the Info Server - SSL [4400]:	Do one of the following: <ul style="list-style-type: none"> <li>To accept the default port number (4400), press <b>Return</b>.</li> <li>To specify another port number, enter the port number.</li> </ul> The following message appears:  INFO: Adding entry to omni.dat for INFOSERVER
Do you want to configure this server to be part of a Dual Desktop Server (DSD) architecture? (y/n)? [n]	Enter <b>y</b> to select DSD configuration.  The following message appears:  INFO: Configuring <SERVER_NAME> for DSD architecture ..
Is <INFO_SERVER_NAME> the Master Info Server in the DSD configuration? (y/n)? [y]	This prompt appears if you specify that the Info Server is to be part of a DSD architecture.  Do one of the following: <ul style="list-style-type: none"> <li>To accept the default setting (the Info Server that you are configuring on this host, named <i>INFO_SERVER_NAME</i> will be the Master Info Server in the DSD architecture), press <b>Return</b>.</li> <li>If the Info Server installed on the will not be the Master Info Server in the DSD configuration, enter <b>n</b>.</li> </ul>
Do you want to create a Desktop Info Server on the current host? (y/n)? [y]	Press <b>Return</b> to create a Desktop Info Server.  The following message appears:  The Info Server <INFO_SERVER_NAME> has been configured to be part of a DSD architecture.



**Table 6-2 DSD Configuration Prompts when SSL Communication is Enabled (continued)**

Prompt	Response
<p>INFO: The Info Server name must be a single word, no more than 11 characters long. It must be alphanumeric and start with a letter.</p> <p>Enter the Desktop Info Server name [DESKTOP]:</p>	<p>Do one of the following:</p> <ul style="list-style-type: none"> <li>To accept the default name for the Desktop Info Server (DESKTOP), press <b>Return</b>.</li> <li>To specify another name, enter the name.</li> </ul>
<p>Do you want to configure the Desktop Info Server for SSL? (y/n)? [n] y</p>	<p>Enter <b>y</b> to specify SSL configuration for the Desktop Info Server.</p>
<p>Enter the port number for the Desktop Info Server - DESKTOP - SSL [4401]:</p>	<p>Do one of the following:</p> <ul style="list-style-type: none"> <li>To accept the default port number (4401), press <b>Return</b>.</li> <li>To specify another port number, enter the port number.</li> </ul> <p>The following messages appear:</p> <pre>INFO: Creating Desktop Info Server &lt;DESKTOP_SERVER_NAME&gt;...  INFO: Adding entry to omni.dat for &lt;DESKTOP_SERVER_NAME&gt;  Generating SSL Certificates for the server: &lt;DESKTOP_SERVER_NAME&gt;  This process takes at least 4 to 6 minutes  Status can be checked at /opt/Omnibus/Utils/install/SSL/ssl.log</pre>
<p>Enter the SSL Key Protecting Password:</p>	<p>Enter an SSL Key Protection Password.</p> <p>The following messages appear:</p> <p>Please wait....</p> <pre>&lt;DESKTOP_SERVER_NAME&gt; has been configured to be part of a DSD architecture.</pre>

**Table 6-2 DSD Configuration Prompts when SSL Communication is Enabled (continued)**

Prompt	Response
Do you wish to run the DSD gateway on this server? (y/n)? [y] y	<p>Press <b>Return</b> to configure the DSD Gateway on the current host.</p> <p>The following messages appear:</p> <pre>Searching for failover gateway port...done Using port 4310 for the failover gateway.  INFO: Adding entry to omni.dat for DSD_GATE Generating SSL Certificates for the server: &lt;INFO_SERVER_NAME&gt;  This process takes at least 4 to 6 minutes  Status can be checked at /opt/Omnibus/utils/install/SSL/ssl.log</pre>
Enter the SSL Key Protecting Password:	<p>Enter the SSL Key Protection Password that you entered earlier in the procedure.</p> <p>The following message appears:</p> <pre>Please wait....</pre>

## DSD\_GATE.conf File

To enable a unidirectional gateway from the Master Info Server in the DSD configuration to the Desktop Info Server(s), the installation script writes out a DSD\_GATE.conf file to the \$OMNIHOME/etc directory. This gateway configuration file contains the commands to set up a READER and WRITER to enable the DSD architecture and keep the servers in synchronization.

## Desktop Info Server Authentication

Cisco Info Center performs the following steps to authenticate a Desktop Info Server:

1. Cisco Info Center checks for the existence of the `MasterSerial` column definition in the Info Server's `alerts.status` table. If `MasterSerial` does not exist, the desktop enters standard Info Server mode.
2. When a user logs into the Cisco Info Center desktop, the desktop checks for the existence of the `master.national` table within the selected Info Server.
3. If the `master.national` table exists and has a valid entry in the `MasterServer` field, the desktop enters dual server desktop (DSD) mode. The DSD treats the selected Info Server as the Desktop Info Server and the Info Server indicated in the `MasterServer` field as the Master Info Server.  
If the desktop does not detect the `master.national` table within the selected Info Server, it enters standard Info Server mode.
4. The DSD attempts to authenticate with the Master Info Server using the user name and password entered in step 2.

## Dual-Write Mode

Dual-write mode enables operators to quickly see the results of tool actions (for example, acknowledge and prioritize) on their dual server desktops. This is done by sending all tool actions to both the Desktop Info Server and the Master Info Server.

You can enable or disable dual-write mode by changing the `DualWrite` field setting in the Desktop Info Server's `master.national` table. To enable dual-write mode, set the `DualWrite` field to 1. To disable dual-write mode, set the `DualWrite` field to 0.

You can also enable or disable dual-write mode from the command line. For details of the event list command line options, see the Netcool/OMNIbus Administration Guide.

**Note**

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If you enable dual-write mode, there is a chance alert information may not be updated on all DSDs simultaneously. For example, this can be due to heavy network traffic. If you require all DSDs to always display identical information, you should disable dual-write mode.

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## Dual Server Desktop Manual Journal Entries

Manual DSD alert journal entries (those entered by the user) are typically sent only to the Master Info Server; however, if a selected alert is exclusive to the Desktop Info Server (in which case it will have a `MasterSerial` value of 0) its manual journal entries are sent only to the Desktop Info Server.

An alert is exclusive to the Desktop Info Server if it is inserted into the Desktop Info Server by any means other than the unidirectional gateway (from the Master Info Server to the Desktop Info Server).

